

WE CLAIM:

1. A method performed in a system having multiple navigable nodes interconnected in a hierarchical arrangement comprising:

at a first node, receiving an input from a user of the system, the input containing at least one word identifiable with at least one keyword from among multiple keywords,

identifying at least one node, other than the first node, that is not directly connected to the first node but is associated with the at least one keyword, and

jumping to the at least one node.

2. The method of claim 1 further comprising:

providing a verbal description associated with the at least one node to the user.

3. The method of claim 1 further comprising:

searching a thesaurus correlating keywords with synonyms.

4. The method of claim 3 wherein the searching further comprises:

identifying the at least one word as synonymous with the at least one keyword.

5. The method of claim 1 further comprising:

determining that the at least one word is neither a keyword nor a synonym of any keyword; and

learning a meaning for the word so that the word will be treated as a learned synonym for at least one particular keyword of the multiple keywords.

6. The method of claim 5 further comprising:

adding the word to a thesaurus so that, when the word is input by a subsequent user, the word will be treated as synonymous with the at least one particular keyword.

7. A method performed in connection with an arrangement of nodes representable as a hierarchical graph containing vertices and edges connecting at least two of the vertices, the method comprising:

receiving an input from a user as a response to a verbal description associated with a first vertex;

analyzing the input to identify a meaningful term that can be associated with at least one keyword;

selecting a vertex in the graph structure that is not connected by an edge to the first vertex, based upon an association between the meaningful term and the at least one keyword and a correlation between the at least one keyword and the vertex; and

jumping to the vertex.

8. A method performed in connection with an arrangement of nodes representable as a hierarchical graph comprising:

correlating keywords with nodes in which the keywords appear to create an inverted index so that the keywords each appear only once and all nodes containing each of the keywords are indexed to those keywords;

maintaining a thesaurus of synonyms for at least some of the keywords;

receiving an input from a user containing a meaningful word;

searching the inverted index to determine whether the meaningful word is a keyword and, if the meaningful word is a keyword, jumping to a node identified in the inverted index as correlated to that keyword, otherwise,

searching the thesaurus to determine if the meaningful word is a synonym for at least one particular keyword and, if the meaningful word is the synonym, using the synonym to identify the at least one particular keyword, and

jumping to at least one node correlated to the at least one particular keyword.

9. The method of claim 8 further comprising:

creating the thesaurus by analyzing at least two files and determining synonymy among application meaningful words contained therein based upon a frequency of co-occurrence among the application meaningful words.

10. A system comprising:

- a hierarchically arranged series of nodes;
- an inverted index correlating keywords with the nodes;
- a thesaurus correlating at least some keywords with synonyms for those keywords;
- a processor executable learning procedure configured to, upon receipt of a term that is identified as neither a synonym nor a keyword based upon a search of both the inverted index and the thesaurus,

- (a) identify the term as at least one particular synonym for at least one particular keyword and

- (b) correlate the term with the at least one particular keyword,

so that when a subsequent user provides the term the system will operate as if the term was synonymous with the at least one particular keyword.

11. The system of claim 10 further comprising:

- a set of verbal descriptions for at least some of the nodes.

12. The system of claim 10 wherein at least one of the nodes is a service node.

13. The system of claim 10 further comprising an interactive voice response system and wherein the hierarchically arranged series of nodes is part of the interactive voice response system.

14. The system of claim 10 wherein the hierarchically arranged series of nodes is part of a file system browser application.

15. The system of claim 10 wherein the hierarchically arranged series of nodes is part of a navigation system for television listings.

16. The system of claim 10 wherein the hierarchically arranged series of nodes is part of one of a document navigation or a document retrieval system.

17. The system of claim 10 wherein the hierarchically arranged series of nodes is part of a geographic information system.

18. A transaction processing system, having a hierarchical arrangement of nodes and configured to interact with a user so that the user can navigate among the nodes in the hierarchy, the system comprising:

an inverted index correlating keywords with at least some of the nodes in the hierarchical arrangement so that when the user interacts with the system and provides an input in response to a verbal description from one node in the hierarchy and the response includes a meaningful word correlatable with a keyword, the system will identify at least one node that is correlated to the meaningful word by the inverted index and jump to that at least one node without first traversing any other node.

19. The system of claim 18 further comprising:
a thesaurus correlating at least some of the keywords with synonyms for the at least some keywords.

20. The system of claim 18 further comprising:
at least one stored learned word correlated to a keyword.

21. A method performed by a program executed by a processor to navigate among a hierarchically arranged group of nodes, each of the nodes having an associated verbal description, the method comprising:

eliminating stop words and duplicates from the verbal descriptions to create a list of keywords;

creating a list of thesaurus words;

creating a first matrix comprising a correlation of at least some thesaurus words with at least some keywords;

creating a second matrix by calculating cosine values from a co-occurrence analysis of the entries in the first matrix;

determining a synonymy among the at least some thesaurus words and the at least some keywords; and

creating a thesaurus configured as an inverted index based upon the synonymy.

22. The method of claim 21 further comprising:
tracking frequency of use of the nodes.
23. The method of claim 22 further comprising:
ranking the nodes based upon a result of the tracking.
24. The method of claim 21 further comprising:
pruning a node from the group of nodes based upon a frequency of usage criterion.
25. The method of claim 21 further comprising:
adding a synonym entry into the thesaurus based upon a result of an unknown word
analysis.
26. The method of claim 21 wherein the thesaurus further comprises at least some
learned entries, the method further comprising:
deleting a learned entry based upon satisfaction of a frequency of use criterion.